

Economic Gardening

**Entrepreneurship, Innovation and
Small Business Ecosystems in
Regional, Rural and
International Development**

SEAANZ Research Book Series



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Editors

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Chapter 1

Economic gardening

What it is and what it does for the generation of jobs and economic growth

TIM MAZZAROL, DELWYN CLARK AND SOPHIE REBOUD

Introduction

Around the world, a central focus of government policy is the fostering of economic growth and the generation of new jobs (DIISR, 2016; ESDE, 2016; Osimo, 2016). High rates of unemployment or underemployment, generate economic and social problems that lead to long-term behavioural change within affected populations (Park, Twenge & Greenfield, 2014). Low economic growth and a lack of employment not only create undesirable poverty and income disparities, they also damage the social capital within a society. This leads to an erosion of the civil society and a weakening of economic development potential within the community (Woolcock, 1998).

The Global Financial Crisis (GFC) of 2007-2008 adversely impacted the majority of the world's economies with implications for both unemployment and economic growth (OECD, 2009). Within the European Union (EU), severe long-term unemployment and underemployment has impacted many countries, where youth unemployment rates remain above 40 percent (ESDE, 2016). Despite a steady economic recovery across most of the EU, unemployment remains high and it impacts some countries and regions worse than others (European Commission, 2016).

Rising unemployment and a slowing down of economic growth is a problem that is also facing many nations outside the EU. According to the World Economic Forum's 2016-2017 *Global Competitiveness Report*:

Nearly 10 years after the global financial crisis, the world has not yet fully recovered from the Great Recession that followed. Productivity is falling or stagnant, employment is below peak pre-crisis levels, and growth remains sluggish.

WEF, 2016, p. 31.

Faced with this challenge, governments are looking at options for stimulating economic growth and job creation, particularly within regional communities (Renault, 2012; WEF, 2014). One option that has attracted relatively little attention since it emerged in the 1980s is *Economic Gardening* (EG). This is an economic development strategy focused on strengthening local businesses, particularly established small to medium sized firms that have growth potential. It is what has been termed a 'third wave' model of economic development (Ross & Friedman, 1990; Bradshaw & Blakely, 1999; Olberding, 2002; Hanley & Douglass, 2014).

In this chapter, we examine the nature of EG and how it offers a tool for policy makers seeking to foster economic growth and employment creation. First, we discuss the historical origins, nature and context of EG as an economic development strategy. Next, we examine the underlying nature of EG and then briefly compare EG with other approaches to economic growth including national innovation systems and entrepreneurial ecosystems. In the conclusion, we provide a series of implications for further research, policy and practice.

The origins, nature and context of economic gardening

The term *Economic Gardening* originated in the late 1980s when a severe economic recession hit the United States. This triggered a run of bankruptcies and impacted the state of Colorado hard. In fact, Colorado was hit by two recessions, the first in 1982, and the second and bigger one, which lasted from 1984 until 1988. Around 48,000 jobs were lost across the state during the 1980s, the majority of which occurred during these recessions (Blount, 1991).

The town of Littleton, Colorado was particularly affected, with thousands of workers laid off, almost a million square feet of retail space left vacant, and with downtown office vacancies bordering on 30 percent (Allen, 2007). Of particular concern was the decision by aerospace giant Lockheed-Martin (then Martin Marietta) and Marathon Oil Corporation, to retrench thousands of skilled workers from its plant in Littleton (Barrios & Barrios, 2004; Woods & Gibbons, 2010). Faced with this challenge the Director of Economic Development in the town of Littleton, Christian Gibbons and the City Manager Jim Woods, met in 1987 with two consultants from the Centre for the New West, Phil Burgess and Kent Briggs to discuss economic development strategies (Blackwell & Coltman, 2006; Gibbons,

2010). According to Gibbons, the gestation of the EG concept emerged from that meeting when Phil Burgess said:

We have all these economic development agencies running around hunting for businesses. They really should just stay at home and work with local entrepreneurs. They should get out of the economic hunting business and into the economic gardening business.

Gibbons, 2010, p. 6.

What emerged from this discussion was the development of the first EG program. The official title used by Gibbons and his colleagues was the ‘New Economy Project’. This focused on addressing three key areas. The first was a review of the town’s basic infrastructure, with a view to improving it for business. The second was an investment in community focused initiatives designed to enhance the quality of life of the town. This included upgrading parks and public open space, recreation facilities, libraries and sponsoring community events (Barrios & Barrios, 2004).

The third area of focus was given to the identification and support of local businesses with growth potential. This support took the form of valuable financial, market and technical information, as well as facilitating their access to other firms, customers and suppliers. Over the next decade, the rate of job creation increased by 8 percent per annum with an additional 12,000 new jobs added, within a population that had increased by only 6,000 over the same time period. This rate of job creation was 5 percent higher than comparable cities in the state of Colorado (Barrios & Barrios, 2004). As with gardening within horticulture, EG nurtures the growth of small established firms by creating the environment in which they have access to all the resources needed to develop and grow.

Pursuing ‘first wave’ hunting strategies down a ‘low road’

At the time that Littleton launched the first EG program the most common approach to economic development was what has been described as a ‘hunting’ strategy, focused on attracting in-bound investment, mostly from large footloose¹ companies willing to move their operations into a region and thereby create jobs (Barrios & Barrios, 2004). This typically involves offering tax breaks, infrastructure enhancements and other incentives (Henderson, 2011).

This hunting strategy has been defined as a ‘first wave’ model that follows a ‘low road’, focused on offering to lower the cost of doing business within a region (Hanley & Douglass, 2014). First wave economic development programs emerged in the 1950s and continue to the present day. They typically involve the building of industrial parks and dedicated infrastructure, supported by financial incentives

¹ Footloose firms are able to locate their facilities anywhere - which provides flexibility to move their production facilities from one country to another if the current economic environment changes to their disadvantage.

targeted at businesses (Dickes, 2011). This strategy has also been described as ‘smokestack chasing’, due to its initial emphasis on trying to secure the relocation of production plants of large manufacturing firms (Bradshaw & Blakley, 1999).

Large footloose firms can provide significant economic investment and job creation for regions or communities suffering from declining growth and rising unemployment (Decker & Crompton, 1993). However, tax breaks or tax holidays and other measures designed to attract large firms to relocate into regions, generally offer little more than a short-term investment boost that is unsustainable (ADB, 2013). Another problem with first wave strategies is that the low road approach is not conducive to the generation of high value-added industries or the fostering of an innovation-driven economy (Lawler, 2016).

Hunt *gazelles*, but leave the shotgun at home

The EG program pioneered at Littleton occurred at a time when the value of small firms and entrepreneurship were becoming better appreciated. David Birch’s (1979) report into the key role played by small business in the creation of jobs within the United States was well known, and his book *Job Creation in America: How Our Small Companies Put the Most People to Work* (Birch, 1987) had just been published. Birch (1979) drew upon Dunn & Bradstreet data to show that most of the net new jobs created in the United States over the period 1969-1976 had been generated from the small business sector. Rather than large firms as the engine room of employment creation, it was the small, independent but ‘highly volatile’ firms, that were making the strongest contribution. In particular, the high-growth firms that Birch described as ‘*Gazelles*’ (Birch, 1987).

In response to policy makers’ desires to reduce unemployment, Birch (1979) recommended that job creation rather than job retention should be their primary focus. However, he also warned that it was difficult to predict the emergence and success of *Gazelle* firms. According to Birch, a ‘rifle-shooting’ as opposed to a ‘shotgun-shooting’ strategy was best.² In addition, he noted that communities were more likely to attract and retain such firms if they offered strong local government and attractive physical environments. Reliable data on the small firms’ sector, its needs and motivations was also needed, as well as the factors likely to encourage it to locate to a given region. All of these recommendations appear to have been taken into the design of the Littleton EG program.

The ‘second wave’ of entrepreneurial growth via the ‘high road’

This identification of a relatively small number of high-growth *Gazelle* firms as the generators of significant numbers of jobs, shifted government policy attention

² A rifle has grooves cut inside the barrel (called rifling) which cause the bullets to spin making it shoot straight and travel faster i.e. providing stabilised flight and improving accuracy and consistency of trajectory. Whereas a shotgun is designed to provide a spread of shot over a short to moderate range.

towards new venture creation and entrepreneurship (Lundström & Stevenson, 2010). In turn, this spawned a focus on the concept of *Entrepreneurial Ecosystems* (EE), which is a more holistic approach to stimulating and sustaining entrepreneurship within a region or country (Isenberg, 2010; WEF, 2013; Mason & Brown, 2014).

Over time this has created a strong focus on business startup activity and the desire to foster the growth of *Gazelles*, particularly those in high-technology sectors (OECD, 2010; Kinner, 2015). The so-called ‘Silicon Valley Business Model’ (Cohen, 2010), that emerged in the 1980s captured the imagination of both academics and policy makers, with considerable hype now surrounding these firms and their likely impact on the national economy (Kinner, 2015; Osimo, 2016; Brown, Mawson & Mason, 2017).

This strategy of fostering *Gazelles* has been defined as a ‘second wave’ of economic development. One that follows a ‘high road’ approach due to its focus on generating new ventures, new jobs and innovation, rather than simply trying to cut taxes, rent and operating costs (Hanley & Douglass, 2014). It became popular in the 1980s and 1990s, characterized by a strong focus on new venture creation, business incubators, business enterprise counselling and facilitation, plus the creation of venture capital fund pools (Bradshaw & Blakely, 1999).

However, the proportion of high-growth firms within most economies is generally very small. The OECD (2010) define a ‘high-growth’ firm as one that has experienced an average annual growth rate of 20 percent over a consecutive three-year period. Such firms are estimated to comprise no more than 3 to 6 percent (by employment) of the total business population in most economies. By comparison, *Gazelles* are firms with this level of growth rate, but that have 10 or more employees and are less than 5 years old. In most economies, these *Gazelles* comprise fewer than 1 percent (by employment), or 2 percent (by annual turnover) (OECD, 2010). Such firms are also not exclusively found in high-tech sectors, but can be found across a wide-range of industries including low to mid-tech sectors (Hendrickson, Bucifal, Balaguer & Hansell, 2015; Henrikson & Johansson, 2010).

The challenge for policy makers seeking to generate jobs through enterprise creation is that most small business startups, in fact most small firms, don’t grow (Nightingale & Code, 2014). Growth involves increased risk to the business, and typically requires the small business owner to sacrifice on a personal and financial level (Kozan, Oksoy & Ozsoy, 2012). Research into the success of entrepreneurial startups indicates that only a very few new firms will make a significant contribution to employment and economic growth (Davila, Foster, He & Shimizu, 2014; Hendrickson, *et al.*, 2015; Acs, Astebro, Audretsch & Robinson, 2016).

Such firms are not only volatile, but very difficult to predict in terms of their characteristics and likelihood for success. This has led some researchers to suggest that it is poor public policy to encourage entrepreneurship and new venture creation across the wider population (Shane, 2009). Further, most of the emphasis on ‘second wave’ economic development strategy involves a direct intervention at the firm level, with support, financing, R&D tax incentives, and training targeted at

startups and small firms. However, by the mid-1990s this strategy was becoming challenged along with that of the former 'smokestack chasing' models (Eisinger, 1995). Its pursuit of high-tech, *Gazelles* was described as 'chip chasing' (Fitzgerald & Leigh, 2002), and it required significant government intervention for often dubious returns (Saiz, 2001).

Seeking a 'third wave' economic development model

During the 1990s, economic development specialists began to advocate a 'third wave' model that sought to bring together the lessons from the failures of first and second wave strategies (Eisinger, 1995). This was triggered by the work of Ross and Friedman (1990) who noted that rather than offering direct support to businesses, the role of the state is to be a 'wholesaler', enabling firms and individual entrepreneurs to help themselves. Creating an environment in which firms could grow and prosper takes the form of indirect assistance such as via education and training programs, local government economic development planning, industry modernisation and innovation initiatives, international best practice benchmarking, and the facilitation of industrial clustering (Eisinger, 1995).

It is into this 'third wave' model that EG emerged. Encouraging new venture creation is not the prime objective of EG (Blackwell & Coltman, 2006; Gibbons, 2010). Rather than *hunting* for large footloose firms, or trying to stimulate new business startups, the aim of EG has been to assist existing firms within a local community or region, and support their growth (Ivacko & Horner, 2010). EG is a long-term strategy that does not seek to provide direct support through tax incentives or grants. Instead it offers business owners information such as market and industry reports, competitor analysis, technology trends, labour and property data and economic forecasts (Desplaces, Wergeles & McGuigan, 2009). It focuses on the growth of locally owned firms that are established and have a management team willing and capable of scaling-up their business, and in the process stimulating job creation and economic development.

By focusing on local firms, that are already established within a community, the EG strategy aims to promote sustainable business growth. This avoids the risk of a sudden withdrawal as might occur with large footloose firms (Barrios & Barrios, 2004). EG strategies recognise that most small business owners are not growth focused, and that only a relatively small proportion of local business owners will be seeking to grow (Braun, Harman & Paton, 2014).

Research undertaken by the US Small Business Administration into *Gazelles* has found that while they represent only 2 to 3 percent of all firms in the United States, they account for almost all the net new private sector employment and revenue growth in the economy. However, such firms are also quite mature, with the average being 25 years of age (Acs, Parsons & Tracy, 2008). This US study also reported that half of the employment growth was attributed to smaller firms (< 500 employees) and the other half to large firms.

Similar patterns have been identified in Europe and the United Kingdom (UK). For example, high growth firms in the UK generate over half of all net new jobs despite representing a mere 6 percent of the business base (Anyadike-Danes, Bonner & Hart, 2009). High or rapid growth can occur in short bursts (Coad 2009). It is often triggered by opportunities in the external environment and rarely follows a linear life cycle (Brown & Mawson, 2013). Furthermore, high growth firms are not necessarily young, small or involved with high technology products (Brown *et al.*, 2017; Henrikson & Johansson, 2010).

Defining and focusing economic gardening

Despite having emerged in the late 1980s, the concept of *Economic Gardening* (EG) remains poorly defined. Gibbons (2010), one of the founding fathers of the EG concept, suggests that the focus of true EG strategies should be on 'Stage II' firms. He defines these as firms that have 10 to 99 employees and an annual turnover of \$1 million to \$50 million.

According to Gibbons, such firms offer the best potential for scaling-up, as they are more viable and less volatile and risky than startups, or 'Stage I' firms (i.e. <10 employees). Such firms are also seen as being more likely to grow than 'Stage III' firms (i.e. those with 100-500 employees), or 'Stage IV' firms (i.e. >500 employees) (Gibbons, 2010).

However, definitions of the targeted firm within EG vary. These range from employment size of between 10 and 50 employees and annual revenue of US \$1 million to US \$25 million; or up to 100 employees and US \$50 million annual turnover (Anderson, 2010; Gibbons, 2010; Edward Lowe Foundation, 2016). No clear definition of EG has been agreed to within the peer reviewed literature.

What most EG strategists seem to agree upon is the need to focus on local firms that have already been established, rather than the creation of new ventures, or the 'hunting' of large footloose firms to relocate into their region. Further, while growth orientation and a capacity for innovation are also recognised as critical attributes of such firms, EG strategies generally agree that firms can come from any industry, not just the high-tech sector.

EG strategy is therefore focused on targeting a specific type of firm and aims to assist that firm to grow through the application of more indirect than direct support measures. As a 'third wave' economic strategy EG is still essentially niche and attracts much less attention within the academic literature and public policy debate than do 'second wave' entrepreneurship programs, or even 'first wave' hunting strategies (Hanley & Douglass, 2014). A survey of economic development strategies taking place across the United States undertaken in the mid-1990s found that 'third wave' initiatives comprised only 21 percent, compared to 'first wave' (20%) and 'second wave' (54%) programs (Eisinger, 1995).

Part of the attraction of 'third wave' economic development strategies such as EG in the 1990s was their relatively low-cost and 'off budget' measures that were largely indirect in nature (Bradshaw & Blakely, 1999). For example, the Littleton EG program had the support of the local government, but it spent no money on expensive inbound investment promotional campaigns common to 'first wave' initiatives. Its investment was largely in the purchase of databases capable of providing quality information on market, competitor and technology trends to the firms it was targeting (Gibbons, 2010). This also included support to education and training programs delivered by local education institutions (Barrios & Barrios, 2004).

What are the benefits of first, second and third wave strategies?

A key question that many policy makers ask is what is the anticipated return to any investment they might make into economic development programs? To address this question Saiz (2001) conducted a detailed statistical analysis of the economic and employment generation benefits of 2,756 'first wave' and 'second wave' economic development programs within the United States over the period 1983-1994. His analysis found no statistically significant relationship between 'first wave' relocation focused strategies and either employment generation or economic growth. He did find a positive relationship between 'second wave' entrepreneurial strategies and enhanced employment in manufacturing industries. However, no significant relationship was found between such programs and state economic growth, a reduction in business failures, or the generation of jobs in the services and retail sectors.

While the analysis undertaken by Saiz (2001) suggests that neither 'smokestack' chasing nor 'chip chasing' strategies are worth the effort, the reality may be more complex. According to Hanley and Douglass (2014), the problem with assessing the costs and benefits of economic development programs is that the units of analysis used for building typologies such as first and second wave models, are flawed. Most are based on economic development concepts and industries that were relevant to the 1980s and 1990s. The state government policies are also captives of the era in which they were developed and the dominant industries upon which the programs were targeted:

In essence, the period of a policy's initial adoption – and, in particular, the dominant industry of that period – is often conflated with the theory of economic development and job creation that underpins the policy, making it difficult to assess the prevalence and efficacy of different economic development strategies.

Hanley & Douglass, 2014, p. 228

According to Hanley and Douglass (2014) a more appropriate approach is to examine economic development strategies from a supply and demand perspective that is independent from industry. Further, state economic development strategies tend to be a combination of supply and demand side programs. In the United States,

these have typically focused on six broad areas. The first of these is focused on encouraging the development of export-driven industries and the relocation of international firms into the region. The second, is focused on fostering entrepreneurial activity in the form of innovation, new product development and specialist industries (i.e. high-tech, bio-tech). The third area of focus is related to the first, but involves having a capacity for rapidly responding to export-driven recruitment, such as the relocation of a strategic business investment. The fourth area involves education and training, with an emphasis on workforce skills building. This is often associated with the strategic business attraction strategy described in the third area. The fifth area of focus is best described as ‘chip chasing’ and involves the attraction into a region of technology-based firms. Finally, the sixth area of focus is associated with enhancing jobs and economic growth opportunities within ethnic minority groups.

Assessing the benefits of economic development strategies is therefore a significant challenge and this is the case for EG as much as any other model. As Bradshaw and Blakely (1999) observed, the economic development programs adopted by different state or regional governments are unique and designed to meet their specific economic and political context. In relation to ‘third wave’ programs such as EG, they point to the need to view such strategies as a ‘policy direction instead of a set of expensive programs’ (p. 243) . This can make it difficult to measure and evaluate these strategies. They rely on indirect activities focusing around leadership, information and brokering. However, ‘third wave’ strategies focus on local firms and their community, but within a global context. As they explain:

Third-wave economic development efforts, then, focus multiple existing resources of state government on a continuing broadening of the foundation for effective economic development. From the first wave’s focus on attracting firms external to the state and the second wave’s focus on both internal and external firms, the third wave gives emphasis to the community and institutional resources that allow firms to succeed in what is an increasingly global context. Indeed, the ultimate success of third-wave efforts is not measured by short-term gains but by what has been described as a positive-sum industrial policy, in which all firms benefit from state efforts and the industry expands due to its global advantages rather than local incentives.

Bradshaw & Blakely, 1999, p. 243

Economic gardening as a ‘third wave’ strategy

Despite three decades since the Littleton program was launched the EG process, as a core economic development program, remains relatively peripheral within the academic literature. Our own review of the research found the term used principally in the non-peer reviewed or ‘grey’ literature. In particular, within sources published by consulting firms, regional development agencies, and local government authorities. (e.g. Pochert, 2010; Ivack & Horner, 2010; Robbins & Allen, 2015; Kauffman Centre, 2016; Edward Lowe Foundation, 2016; NCEG, 2017; EGCC,

2017). Even the idea of ‘third wave’ approaches to economic development such as EG have been challenged (Eisinger, 1995; Bradshaw & Blakely, 1999). Instead they have been viewed as primarily adopting many aspects of ‘second wave’ entrepreneurial programs, but applying them to local firms within the ‘Stage II’ *Gazelle* category (Hanley & Douglass, 2014).

The Principles of Economic Gardening

Gibbons (2010) highlights several key principles that any EG program should adhere to:

- Assume that economies are driven by entrepreneurial growth.
- Focus on growth oriented Stage II businesses (i.e. 10 to 99 employees).
- Engage the local community and businesses through the provision of information, infrastructure and connectivity.
- Make use of appropriate support tools and systems for research and analysis.
- Use scientific theories to assist with design and development.
- Adopt a strategic view of the business community and their environment, with emphasis on strategy, market dynamics, marketing, team building and finance.
- Focus on enhancing innovation and value adding not lower taxes, wages and real estate costs.
- Recruit a skilled and dedicated *Economic Gardening* project team who are embedded in the community and work with local businesses in an iterative manner; and
- Create an organisational structure and culture that is as entrepreneurial as the firms it seeks to assist.

As discussed above, EG is a ‘third wave’ economic development strategy based on a fundamental principle of building up a region’s business capacity from the inside out. This focuses on providing local businesses and entrepreneurs with information, training, business assessments, industry and market analysis, access to networks and advisory services (Desplaces *et al.*, 2009). Of particular importance is the need to map the economic and social foundation of the community within which the EG strategy is targeted. This is to gain a good understanding of the capacities and needs of the key actors, and identify how they interact or might potentially interact (Stolarick, Denstedt, Donald & Spencer, 2010).

EG is a holistic, strategic methodology that requires a substantial amount of information capture, assimilation and dissemination within the targeted

community, and across the market environments of the firms that it aims to facilitate growth within. Gibbons (2010) emphasizes the importance of not viewing EG as merely a business assistance program. EG requires a much higher-level focus including as well as the ability to manage major stakeholders such as local governments, community and industry organisations as well as the business community.

The process used within EG programs varies from place to place. However, its common features include a targeting of selected local businesses who are provided with a portfolio of services that empower them to make the necessary steps and strategic decisions required for successful growth. The emphasis is on facilitating and assisting with the firm's growth, using diagnostic assessments of the firm's performance, and supporting the firm's senior managers with competitive market and industry analysis, networking opportunities, training and education and access to further business services as required (Barrios & Barrios, 2004; Desplaces, Wergeles & McGuigan, 2009; Gibbons 2010). There is an emphasis within EG programs on the provision of information, connections (i.e. strategic networking), the promotion of innovation, and developing 'intellectual infrastructure' including research centres, universities, business education and training centres (Braun, Harman & Paton, 2014).

Differentiating EG 'third wave' strategy from entrepreneurial 'second wave' strategy

In their examination of 'third wave' economic development programs Bradshaw and Blakely (1999) identified several common attributes of such strategies. First, there is a need to view economic development as a strategic planning approach to industrial policy. Second, this planning needs to focus on the formation of public-private partnerships with state or local government authorities collaborating with local industries and businesses. Third, there is a focus on industry clusters, where the emphasis is on identifying what firms exist, and how they can build on their existing assets and strengths. Fourth, these strategies recognise the importance of placing their local firms and economic activity within a global market context. Fifth, networking and the aim of connecting their businesses into a strategic network to support future growth.

In addition, Bradshaw and Blakely (1999) found three important ingredients within these programs:

1. strong leadership from local and state government authorities;
2. the provision of high quality information and knowledge transfer to targeted businesses; and
3. facilitation or 'brokering', by economic development agencies to help local firms do business more easily, reduce 'red tape' and access technology and markets.

Table 1.1: Attributes of first, second and third wave economic development models

Economic Development Model	Key Attributes	Description
First wave	<i>Direct cost reduction</i>	Reduction in the cost to firms of doing business via lowering taxes, wages, logistics and operating location within the region.
	<i>Administrative passivity</i>	Government investment decisions are subordinate to those of private sector enterprises. Activity is focused on promotion of region as a low-cost place to do business ‘hunting’ for footloose firms.
	<i>Absence of targeting</i>	Relative absence of specific targeting, other than manufacturing (smokestack chasing), all business is welcome, although primarily focused on attracting inbound investment and relocation by footloose Stage III (100-500 employees) and Stage IV (500+ employees) firms.
Second wave	<i>Targeting of entrepreneurs</i>	Targeting of entrepreneurs and fostering new venture creation with primary focus on startup and Stage I firms (1-9 employees). A particular preference is shown to high-tech ‘Silicon Valley’ business model enterprises.
	<i>Direct support to innovation and entrepreneurship</i>	Direct support for adaptation to new production processes, technology adoption, skills development, mentoring and business improvement consulting.
	<i>Public-private partnerships</i>	Creation of technology parks, business incubators, accelerators, venture capital startup funding, R&D grants, public-private investment pools, technology transfer from universities.
Third wave	<i>Government leadership</i>	Leadership by politicians, government officials and agencies is crucial as the strategy involves strategic policy development.
	<i>Public-private partnerships</i>	Indirect engagement between government and industry with a focus on co-creating economic and industry policy that aims to create an environment conducive to innovation and growth.
	<i>Targeting of local Gazelles</i>	Primary focus is on locally based Stage II firms (10-99 employees) with high-growth Gazelle potential.
	<i>Industry clusters</i>	Economic strategy is based on building on the existing firms and industries in the region thereby focusing attention to industry cluster development.

Economic Development Model	Key Attributes	Description
Third wave	<i>Global orientation</i>	Globally focused for inbound and outbound investment, as well as assisting local Gazelle firms to benchmark at international best practice.
	<i>Dissemination of knowledge</i>	Strategic use of information and knowledge to facilitate business growth. Includes education and providing access to high quality information and data sources for targeted firms.
	<i>Strategic networking</i>	Strategic networking of local Stage II Gazelle firms as well as linking the activities of the region into broader state, national and global connections.
	<i>Social & economic capital building</i>	Integration of economic and social policies to boost both business and community enhancement.

Sources: Bradshaw & Blakely (1999); Saiz (2001); Olberding (2002); Barrios & Barrios (2004); Desplaces et al. (2009); Gibbons (2010); Hanley & Douglass (2014).

Table 1.1 provides a summary of the main attributes identified in the literature associated with first, second and third wave economic development models. As can be seen, while both the ‘second wave’ and ‘third wave’ models follow a ‘high road’ strategy focusing on entrepreneurship and innovation rather than low operating costs, there are some important differences. Perhaps the most important difference is that ‘second wave’ programs focus more on direct support and intervention with a specific focus on fostering startups rather than building on existing industries and firms. By contrast, ‘third wave’ strategies such as EG, are differentiated by their focus on established local firms, the use of public-private partnerships, industry cluster development, strategic networking, an active role by government, the strategic use of information and knowledge to facilitate business growth, and a realisation that both social and economic capital building are important to the economic development process.

The importance of industry clustering

According to Bradshaw and Blakely (1999) a key element in ‘third-wave’ economic development programs is the ability to map a region’s industries and identify industrial clusters that offer a unique foundation for industry enhancement. However, it is not something that is mentioned within the literature relating to EG programs in a direct way, although it has been suggested that EG might encourage clusters (Barrios & Barrios, 2004). In their examination of the use of EG programs within Australia, Braun, Harman and Paton (2014) suggest that EG might be

employed as an industry clustering strategy. Yamamoto (2007) also makes a brief mention of industry clusters in his assessment of the use of EG strategies in Japan.

While we agree that industry clustering is a potentially important aspect of EG, our view is that its role is to provide a strategic context and foundation for EG strategies rather than as an outcome of them. To understand this assumption, it is necessary to provide a quick overview of industry clustering. The concept of industrial clusters has its origins in the work of the economist Alfred Marshall (1842-1924) who noted the benefits specific geographic locations provided to businesses through access to skilled workers, supplier-buyer trade networks and the flow of knowledge via business contacts (Baptista, 1998).

Industry clustering was brought into the mainstream of policy in the late 1980s and early 1990s by the work of industrial economists such as Porter (1990) and Krugman (1991). An industry cluster is where multiple businesses, or industries group together, usually in geographic proximity, to secure benefits from supply-chain (buyer-supplier) relationships, competitive rivalry, cooperation and sharing of information or resources (i.e. natural resources, infrastructure, skilled labour) (Anderson, 1994). The benefit of industry clustering is that the co-location of firms within related and supporting industries will have a range of benefits such as knowledge exchange, technology transfer, positive competitive rivalry, economies of scale and scope, and access to common user infrastructure and resources (Porter, 2000; Sennett, 2001).

Inter-firm networking is a key part of industry clustering. However, it is important to distinguish between strategic networks and industry clusters. Networks tend to be focused around inter-firm relationships for specific, often contractual exchanges, based on cooperation and with restricted membership. By contrast industry clusters involve industries and interactions that are cooperative and competitive, with open membership and general rather than specific purposes. Rather than contractual agreements, clusters are based on social values, reciprocity and trust (Rosenfeld, 1997).

There are numerous types of industry cluster, but the most relevant to EG are innovation clusters, of which Hart (2000) identified several types. They are typically characterised by a geographic concentration of small to medium enterprises (SMEs), sometimes with larger firms, with interfirm linkages that can be based on production or supply-chain exchanges, and/or more informal and often social interactions that involve the exchange of information and knowledge. Social capital is high in the majority of these clusters, with skilled and specialised workforces, entrepreneurial culture, and a focus on product and service innovation and value adding.

The structure of industry clusters varies from region to region and is usually shaped by geography, industry, infrastructure, technology, government policy, and the economic and social history of the region in which they are found (Enright, 2001). Industry clustering has attracted interest from policy makers seeking to emulate the success of regions where industry concentration and interfirm competitive rivalry

and collaborative alliances have served to stimulate innovation and economic growth (OECD, 2000). They have also been viewed as a key element in both regional economic development and innovation policy in many countries (Isaksen, 1996; Porter, 2000; 2001; Garret-Jones, 2004). Furthermore, recent research on high growth firms has shown that spatial logic applies in relation to their physical location (Brown & Mawson, 2016), and they may appear in higher proportions in geographical clusters (Motoyama & Danley, 2012). Hence, it is important to take a customised approach for cluster development within each region (Brown *et al.*, 2017).

Within EG strategy the mapping of existing industry clusters, to identify the number, structure, concentration and performance of firms within local industries is an important first step. This will help to identify the firms that might be targeted as future *Gazelles*, and offer valuable data on the relative importance of such firms and industries to the region from the perspective of employment, industry value added and contribution to economic growth. Ongoing mapping of these clusters will also provide valuable baseline data to assist in evaluating the success of any EG program.

The importance of strategic networks

Closely related to industry clustering is the role of strategic networking within EG strategies. As noted above, strategic networks differ from industry clusters in that they are predominately focused on positive interrelationships between individual firms, rather than the wider interaction of both a collaborative and competitive nature, plus any spill-over effects at an industry level (Anderson, 1994; Baptista, 1998). Interfirm collaboration and strategic networking within industry clusters was identified by Porter (1981; 2000) among others, such as Gulati, Nohia and Zaheer (2000), and has been recognised as important to the fostering of innovation (Porter & Stern, 2001).

Porter (1980) identified what he termed the *value chain*, or the interconnectivity of activities within the firm and between firms within a production system or supply chain. The mere possession of assets was not what delivered competitive advantage and the creation of value, but the ability of the firm, and the firms within the wider production network, to undertake activities that either helped to lower cost or increase value. Jarillo (1990; 1993) identified strategic networks as a new organisational form, in which the interaction and activities that firms do with each other within the network are of greater importance to the creation of value than the individual firms alone.

For small and medium firms such as the *Gazelles* that are the core focus of EG strategies, strategic networks are of particular importance. The strategic value of personal networks to entrepreneurs within small firms as been identified for some time (Ostgaard & Birley, 1994; Borch & Arthur, 1995). SMEs are inherently resource constrained and for most high-growth *Gazelles*, this is an even bigger problem (Alvarez & Busenitz, 2001). Strategic alliances and networks provide such firms

with access to resources (i.e. technology, finance, skills, knowledge), as well as assistance in their business development and growth (Street & Cameron, 2007; Gulati *et al.*, 2000).

Within 'third wave' economic development strategies strategic networking has been a common feature, with such networking taking place not only between targeted firms, but between local government and regional development authorities (Bradshaw & Blakely, 1999). This can take a variety of forms, but typically occurs via support with networking to assist with securing access to financing, market opportunities, technology and skilled labour (Barrios & Barrios, 2004; Desplaces *et al.*, 2009; Braun *et al.*, 2014; Becker, 2015). However, this networking should be of a strategic nature and not just a casual 'after hours networking' event (Gibbons, 2010).

High growth firms engaged in innovation and commercialisation projects with national or global aspirations, will need to find strategic partners across a number of levels. This may include other small or similar sized firms, but also larger companies that can assist them to access global supply chains. Learning how to work with a larger firm within a strategic alliance is challenging and requires a strategic approach (Alvarez & Barney, 2001). Establishing relationships with peers also provides opportunities for networking and obtaining support and advice informally, which managers of smaller firms prefer to seeking external professional assistance (Mason & Brown, 2013; Brown *et al.*, 2017).

For those engaged in EG programs it is important to examine the target firms with a view to assessing their existing and required network relationships across the production network (i.e. supplier and customer), resource network (i.e. third-party suppliers of technology, financing and support), and social network (i.e. personal connections of senior managers and the board directors) (Holmlund & Tornroos, 1997). In assisting the target firm attention should be given to the strategic purpose of alliance formation and how such networking will enhance the overall strategic goals of the company. Further, this support or facilitation should focus on the process of relationships management, including how such networks are joined, the requirements (i.e. costs/benefits) of membership, the establishment of trust and development of organisational learning (i.e. information sharing and knowledge transfer) (Street & Cameron, 2007).

Information, knowledge and absorptive capacity

A third important component within 'third wave' EG programs is the enhancement of the target firm's organisational learning through information and knowledge sharing (Bradshaw & Blakely, 1999; Braun *et al.*, 2004; Gibbons, 2010; Lawler, 2016). This typically takes the form of 'information brokering' whereby business and market intelligence information is provided to the target firms to assist them in their growth strategies (Morgan & Lambe, 2009). It can also take the form of education, training, expert counselling and technology transfer from universities (Bradshaw & Blakely, 1999).

Management teams within startups and early stage firms that have entrepreneurial growth orientations, will find formal planning of less value than established firms (Brinckman, Grichnik & Kapsa, 2010). As firms become more mature and settled in their industry sectors they are usually better placed to use formal business planning because they have greater knowledge and the systems to support such efforts. However, the fast growth trajectory of *Gazelle* firms places their management teams into a constant state of environmental uncertainty. To achieve such rapid growth requires these firms to adopt a high level of innovation across products, processes and markets. This in turn will increase the level of uncertainty and perceived risk.

The ability of a firm to manage growth through innovation is contingent on how well it acquires, assimilates, transforms and exploits information and knowledge; and then learns how to configure its resources in a manner that generates value and provides a competitive advantage. This process of acquiring and transforming knowledge into value is known as *absorptive capacity* (Zahra & George, 2002). It provides a foundation for the firm's ability to build competitive advantage through the effective allocation of resources, or what is known as *dynamic capabilities* (Teece, Pisano & Shuen, 1997). Knowledge, both 'tacit' (i.e. wisdom, experience, skills), and 'explicit' (i.e. codified in patents, manuals and policies) (Polyani, 1962), and how well the firm uses it to bundle resources (those within the firm and those within their network), will provide the basis of a dynamic capability upon which to build a growth strategy, particularly within high innovator firms (Huang & Rice, 2009; De Zubieta, Jones & Lester, 2016).

A firm's absorptive capacity seems to improve as it grows in size, particularly if its management team is well-educated and motivated by a clear growth strategy (Gray, 2006). For policy makers and those seeking to implement EG programs, it is important that information 'brokering' is combined with education and knowledge transfer. *Gazelle* firms targeted by such programs need to be selected with a view to their ability to transfer their potential absorptive capacity (PACAP), in the realised absorptive capacity (RACAP). Cadiz, Sawyer and Griffith (2009) suggest that the three key elements likely to determine a firm's absorptive capacity (ACAP) are how well it can assess, assimilate and apply knowledge. In assessing information, the firm's managers and employees must possess the ability to decipher knowledge and identify the most valuable things from a commercial perspective. Then to decide on what information is most valuable to meeting customer needs, and having the ability to assess information about technology and accurately assess what is credible and trustworthy. They also need to share knowledge, and connect knowledge and information. Finally, they need to be open to new ideas, willing to adopt new technologies and technical knowledge, apply it to their work, and commercial outputs.

Focus on building social capital

A further and critical aspect of 'third wave' strategies such as EG is the recognition that social capital plays a much importance as economic capital to the generation of

jobs and economic growth (Barrios & Barrios, 2004). The experience of Littleton in the 1990s highlighted the need to invest in enhancing both the business community and the wider social community through investment in parks, recreation facilities and the fostering of social capital via networking and connections (Lambe & Morgan, 2010).

In addition to EG, other 'third wave' economic development strategies include *Place-Based Development*, which aims to enhance the overall quality of life in towns and urban areas. It does this via investment in public space, common user infrastructure, tourism development, the arts and culture. This is closely associated with additional strategy of *Creativity & Talent Cultivation*. In that strategy, the creative arts and related industries are developed, along with workforce skills building and the nurturing of social capital (Morgan & Lambe, 2009)

Although social capital is somewhat difficult to define (Fine, 2001), it is generally associated with forces that enhance the level of cooperation between people (Fukuyama, 2001), or the interpersonal relationships that exist between people within a community (ABS, 2002). The key components that have been identified as comprising social capital are interpersonal trust, reciprocity and the flow of information across networks (Woolcock, 1998; Winter, 2000; Alder & Kwon, 2002). Strong social capital is a necessary precondition for the formation of networks and community collective action, as well as an outcome from such activity (Burt, 1997; Woolcock & Narayan, 2000; Majee & Hoyt, 2011).

Enhancing the overall quality of life within a community through *Place-Based Development* and the fostering of a creative class via *Creativity & Talent Cultivation*, have been identified within 'third wave' economic development approaches as complementary to EG (Morgan, Lambe & Freyer, 2009). The work of social geographer Richard Florida (2000; 2002) has identified a concentration of creative industries in communities that also demonstrate strong entrepreneurial and innovative capacities. Social capital has been identified as a key component helping to both bind and facilitate entrepreneurial networks (Anderson & Jack, 2002). In turn, entrepreneurship has even been identified as a sub-component of social capital (Audretsch, Keilbach & Lehman, 2006).

Social capital can both enhance or stifle innovation and entrepreneurship (Florida, Cushing & Gates, 2002). Enhancing entrepreneurship, innovation and economic growth can be potentially supported by strong social capital (Partanen *et al.*, 2008). Social capital fosters the sharing of knowledge, and the networking that places key people together to provide reliable information to enable more effective strategic decision making (De Carolis & Saporito, 2006). It focuses on relational dimensions and activities to build ties or bridge to find opportunities and obtain resources (Granovetter, 1973; 1983).

EG programs can benefit from mapping social capital within a community. Measuring social capital is not without its challenges, but it has been examined using validated scales that focus on social participation, engagement and commitment, groups and networks already in existence, levels of trust and

cooperation, information and communication exchange, social cohesion and empowerment (Byrant & Norris, 2002; Grootaert *et al.*, 2004; Dudwick *et al.*, 2006; Camps *et al.*, 2015). Encouraging collaboration, information sharing, networking and industry clustering within regional communities of SMEs can enhance social capital, innovation and overall business performance (Cooke & Wills, 1999). Recognition of the role of social capital provides impetus to enhance the inclusion of relational activities and approaches to economic growth and development (Mason & Brown, 2013).

Economic gardening within the entrepreneurial ecosystem

As noted earlier, one of the more recent approaches to economic growth and development, that has been of increasing interest to government policy makers and advisors around the world, is known as *Entrepreneurial Ecosystems* (EE) (Isenberg, 2011; 2014; WEF, 2013). This holistic approach fits well with business ecosystems thinking which recognises that businesses don't evolve in a vacuum and they are relationally embedded with suppliers, customers and financiers (Moore, 1993; Iansiti & Levien, 2004). Ecosystems are dynamic and co-evolving communities of diverse actors who create and capture value through increasingly sophisticated models of both collaboration and competition (Visnjic & Neely, 2013; Kelly, 2015). In this type of dynamic context, new and existing firms have better opportunities to grow and create employment than in traditional industry silos, thereby fostering innovation (Williamson & De Meyer, 2012).

A comprehensive definition of an entrepreneurial ecosystem is provided by Mason and Brown (2014) from their study for the OECD of growth-oriented entrepreneurship, as follows:

... a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (...) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment.

Mason & Brown, 2014, p. 5.

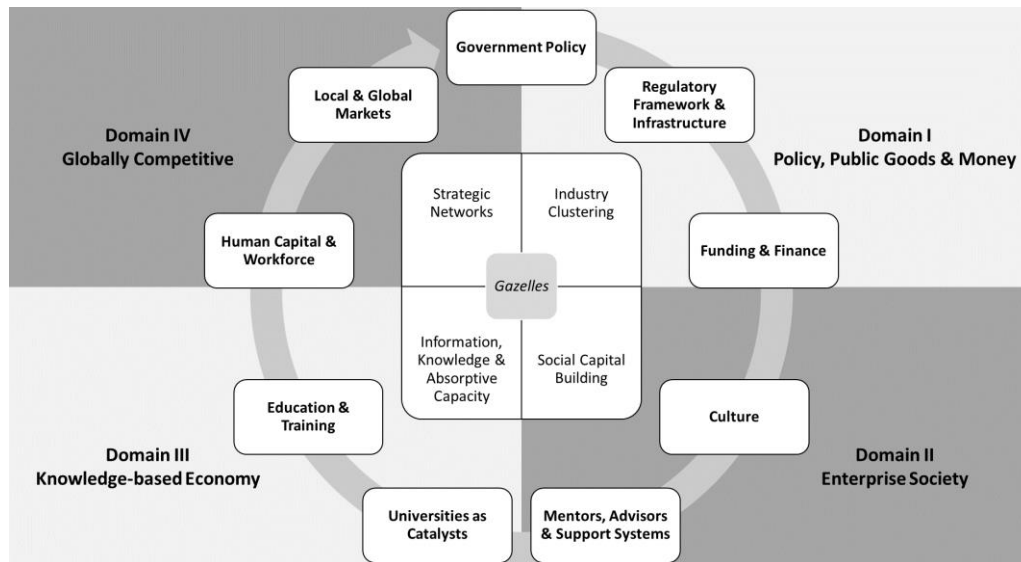
According to Isenberg (2010, 2011, 2014), the elements in an EE are grouped within six general domains:

- The existence of a culture conducive to enterprise;
- A government that offers enterprise enabling policies and leadership;
- The availability of appropriate finance;
- The presence of quality human capital;
- Venture-friendly markets for products, and
- A range of institutional and infrastructure supports.

In addition to these domains, the World Economic Forum (2013), in their survey of entrepreneurs' perceptions of EE, also included three more pillars:

1. Education and training;
2. Mentors, advisors and support systems, and
3. Universities as catalysts.

Figure 1.1: Economic Gardening within the Entrepreneurial Ecosystem



Source: adapted from Mazzarol (2014a).

Mazzarol (2014a) combines all of these as the core components of an EE as shown in the outer ring of Figure 1.1. This model shows that EG addresses a sub-set of the factors in the EE concept which encompasses a much larger range of macro-environment and contextual factors. As outlined, EG is very locally focussed and targets a specific type of firm i.e. small firms with high growth potential and aspirations; whereas EE focuses on creating an enabling environment for growth of entrepreneurial firms.

The nine components of the EE (Mazzarol, 2014a) can be applied to an EG strategy, but the core focus of that strategy would build on the fostering of *Gazelles*, and developing them within the wider context of industry clustering, strategic network development, information, knowledge and absorptive capacity, and social capital building.

As illustrated in Figure 1.1, there are four 'domains' into which the nine elements of the EE framework and the four elements of the EG framework nest. The first domain is associated with government policy, the provision of public good infrastructure, and the regulation of the economy for the public good, as well as the maintenance of a banking and finance system capable of funding growth within *Gazelle* firms. The building blocks of a globally competitive industry cluster are to

have firms that are export driven and supported by internationally ‘best practice’ linkage industries (i.e. transportation, logistics and business services), as well as high quality population driven industries (i.e. retailing, housing, construction, education and health) (Waits, 2000). These macro-level elements influence operating location decisions of many firms and the industries they exist within. Government policy relating to taxation, regulation and compliance, the provision of infrastructure and the ease of accessing credit and investment capital are all key components firm’s task environment and fundamental to its ability to grow (Mazzarol, 2014b).

The second domain encompasses the fostering of an enterprising society in which the culture encourages entrepreneurial behaviour, and firms seeking growth can access the necessary support, mentoring and advisory assistance that they need to make strategic decisions, secure contracts, appoint directors and enhance their managerial capabilities. These elements of the EE system are reinforcing to the process of social capital building, which in turn helps to strengthen them in a mutually beneficial manner (Brown & Mason, 2017).

The third domain encompasses the fostering of a knowledge-based economy in which education and training is a core ingredient in enhancing the flow in information and knowledge to the firms seeking growth, thereby strengthening their absorptive capacity. It is into this domain that universities can play a role as catalysts via technology transfer, collaborative research, industry outreach programs and the education of the managers and employees within the targeted firms (Mazzarol, Battisti & Clark, 2016).

Finally, the fourth domain encompasses the creation of a globally competitive industry base within the region or economy. A highly skilled and capable workforce is essential to the success of innovative, internationally focused businesses (Dutta, Lanvin & Wunsch-Vincent, 2014; CEDA, 2015). Market expansion into national and global markets requires a firm to establish strategic networks within supply chains (OECD, 2017).

Economic gardening and other economic growth frameworks

The nature and role of industry clusters and strategic networks within an EG strategy has already been discussed as they are fundamental third wave approaches. However, there are other perspectives and frameworks that are relevant for the over-riding objective of economic growth and social development at local, regional and national levels. In Table 1.2 we have provided a comparison of EG with three economic growth frameworks: industry clustering (IC), national innovation systems (NIS) and entrepreneurial ecosystems (EE). This is important to highlight the similarities and differences between these frameworks - albeit at a high level of analysis.

Table 1.2: Economic Gardening Compared with Other Economic Growth Frameworks

	Economic Gardening (EG)	Industry Clusters (IC)	National Innovation Systems (NIS)	Entrepreneurial Ecosystems (EE)
Focus	Stimulating growth of small firms in local area.	Stimulating regional economic growth.	Facilitating innovation and growth within a specific country.	Creating an enabling environment for growth of entrepreneurial firms.
Target Unit	Individual established firms.	Group of related firms co-located geographically.	National level systems for innovation.	Varies but starts locally – built on local conditions.
Policies	Local economic development agenda.	Regional economic policy.	Science system, R&D funding.	Entrepreneurship, business, trade, exporting.
Scope	Product, market and technical analysis and information.	Sharing information or resources to improve competitiveness.	Flows of technology and information – transactional.	Macro and micro entrepreneurial relational support activities.
Approach	Indirect support.	Indirect support.	Direct and indirect support.	Indirect support.
Innovation Types	Product, process, organizational; tech or non-tech.	Innovation embedded in a cluster.	Technological – scientific R&D.	Product, process, organizational; tech or non-tech.
Key References	Barrios & Barrios 2004; Gibbons 2010.	Porter 1990; 2000; 2001; Krugman 1991.	Lundvall 1992; Nelson <i>et al.</i> , 1993; Freeman 1995.	Isenberg 2010; 2011; WEF 2013; ANDE 2013; Mason & Brown 2014; Brown & Mason 2017.

Each framework has a specific focus that is different to the others and reflected in the target unit, relevant policies and scope of principal activities involved. The focus varies from being primarily local (EG), regional (IC) and national (NIS), to creating an overall environment that enables entrepreneurial firms to grow (EE). Likewise, the unit targeted varies from individual firms (EG), groups of co-located firms (IC), and national systems for innovation (NIS), to locally based ecosystems (EE). Similarly, the relevant policies and scope of the activities for these approaches reflect the different priorities of each framework as signalled by the foci and target units. Hence, the policies range from local (EG), to regional (IC), and national (NIS); with a series of specific policies identified for the EE enabling environment. The

scope of the major activities differs from provision of specific analysis and information (EG), sharing of information and resources (IC), and transactional technology support systems (NIS), to relational macro and micro support activities (EE).

There are more similarities in the types of support and innovations associated with these growth frameworks. NIS utilise both direct and indirect types of support, while EG, IC and EE use primarily only indirect support and assistance to facilitate economic growth. EG and EE offer support for all of the OCED's innovation types including both technological and non-technological innovations (OECD, 2005). However, IC focus on innovations that are embedded within the cluster, and the NIS approach is primarily concerned with technological innovations and scientific R&D.

This comparative analysis is potentially valuable for policy makers and scholars who are interested to understand how the new and emerging EE approach fits with existing approaches and frameworks. Given the significance of entrepreneurship and innovation to economic growth, it is important to understand how the EE framework complements the existing NIS approach. Our analysis begins to clarify the relationships between them and shows that they are significantly different in all of the core areas. However, as they are fundamentally different and not overlapping, we propose that they can be implemented in parallel without duplication. Further in-depth analysis of the EE components is needed to seek opportunities for connections between these two systems in terms of the entrepreneurial actors, institutions, and processes (Mason & Brown, 2014).

This comparative analysis is also helpful in differentiating EG from these other growth frameworks. As signalled above, it shows that EG incorporates a smaller set of factors than EE, targeting a specific set of firms with growth potential and capacity within a localised context. This analysis suggests that EG which starts locally, may develop into a bigger regional IC approach if it can scale up in terms of the actors and requirements for a successful IC. However, as the nature of EG is fundamentally different from the NIS approach, EG is not able to be considered as a sub-set of the NIS. Further analysis of the EG approach using the detailed EE core components would add depth to the EG approach and provide a structure for further research.

Conclusion

EG has not become widely known in practice and there is limited research to date on this approach. However, our review suggests that EG has potential for facilitating economic growth by supporting local and established businesses to grow. The focus of any EG strategy should be on established, locally embedded, growth oriented firms. Whether such firms will prove to be high-growth *Gazelles* may not be as important as their ability to sustainably grow and in doing so generate jobs and economic value over the longer term.

As outlined in Figure 1.1, the EG strategy should be placed within the wider context of the EE framework. We have suggested that this might be considered within four domains that address the key issues associated with enhancing the process of doing business through the implementation of sound public policy, good regulation, investment in infrastructure and the ease of business access to credit and investment financing. Growth oriented firms should be able to enhance and strengthen their strategic networks through this.

There should also be attention given to the fostering of an enterprising society in which the culture and supportive environment helps to strengthen and in-turn mutually reinforce the social capital within the community. This will assist in the creation of stronger flows of information and knowledge sharing that are necessary for the development of a knowledge-based economy as identified in the third domain. Investment in quality education and training institutions and their ability to engage with the growth oriented firms targeted by the EG strategies are an important part of this model.

For any long term, sustainable economic growth that generates high quality jobs it will be important to have industry clusters that contain globally competitive firms, with local roots and a capacity to draw on a globally competitive local workforce. Over time this creates a self-reinforcing ecosystem that can offer the job creation and economic growth so keenly sought after by government.

However, a word of caution to policy makers is that EG is a long-term strategy that requires years, perhaps decades to fully implement. It is also a multi-faceted and holistic process that is mostly indirect in nature. Governments, at all levels, do play a critical role, but their focus needs to be on the things that create a positive environment in which to do business and invest. Leadership by government leaders is very important, but it remains largely indirect.

For academics, the challenge is to focus on enhancing our understanding of what factors foster entrepreneurial growth within SMEs, and to draw together a wide range of existing, but often disparate conceptual elements and investigate how they are interrelated and applied to economic development and small business growth.

Applied research studies need to focus on the mapping of existing regional economies with the aim of identifying industry clusters and strategic networks within them that indicate the foundations for future growth. The social capital inherent within the target region can also now be mapped using both qualitative and quantitative methods (Grootaert, *et al.*, 2004; Dudwick, *et al.*, 2006). Concurrently attention should be given to enhancing the flow of high quality information to target firms and their related strategic network partners. Universities and vocational training institutes have a key role in this, but so too do industry associations, chambers of commerce and the wider media.

For growth oriented firms, in particular high-growth *Gazelles*, the strategic horizon must be at an international level. This will require the facilitation of export or forward investment activities designed to connect such firms into global supply

chains, or assist them to strengthen existing export channels. Industry clustering and strategic networks will play a key role in this process, but must be mutually supported by the presence of strong social capital and absorptive capacity.

EG remains a niche and relatively marginalised economic development strategy. However, if it can be placed within the context of the EE framework it has the potential to refocus government and industry attention towards a more coherent 'third wave' economic development framework. Rather than chasing smokestacks or high-tech startups, attention should be given to nurturing the established, locally owned firms already engaging in growing national and international markets.

Implications for further research, policy and practice

- *To develop a series of core components for EG*, further research is needed that examines a series of EG case studies and compares them with the existing EG principles and processes.
- *To identify and compare the entrepreneurial actors, institutions, and processes involved in EG with those in EE*, further research is needed to map and evaluate all of these different players and activities from both approaches.
- *To measure the social and economic impact of EG*, further research is needed to create metrics for benchmarking performance of EG activities in short, medium and longer-term horizons.
- *To evaluate the indirect support provided within EG strategies*, further research is recommended that examines and compares the different types of support and assistance available.
- *To raise the profile of EG*, central and local government agencies need to provide exemplars of successful EG strategies from local communities and regions.
- *The complementary nature and connections between EG and EE* need to be more widely communicated to economic policy makers at national, regional and local levels.
- *The non-linear nature of growth from small, medium or large firms* needs to be factored into economic growth strategies as this impacts on the firms targeted for various types of support or assistance.
- *A gardening metaphor* provides a readily communicable approach for advisors to use in explaining this EG approach in practice.

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